



WHAT OTA IS WHAT OTA DOES HOW OTA WORKS

CONGRESS OF THE UNITED STATES
Office of Technology Assessment

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Office of Technology Assessment

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Office of Technology Assessment (OTA)

WHAT OTA IS

OTA is a nonpartisan analytical support agency which serves the United States Congress. (See p. 5)

WHAT OTA DOES

OTA works directly with and for the committees of Congress. Its purpose is to help Congress deal with the complex and often highly technical issues that increasingly affect our society. (See p. 7)

HOW OTA WORKS

OTA's multidisciplinary staff plans, directs, and drafts all assessments. It draws extensively on the broad technical and professional resources of the private sector, including the universities, research organizations, industry, and public interest groups. (See p. 8)

Excerpt From Technology Assessment Act of 1972

Public Law 92-484, 92d Congress, H.R. 10243

October 13, 1972

"FINDINGS AND DECLARATION OF PURPOSE

SEC. 2. The Congress hereby finds and declares that:

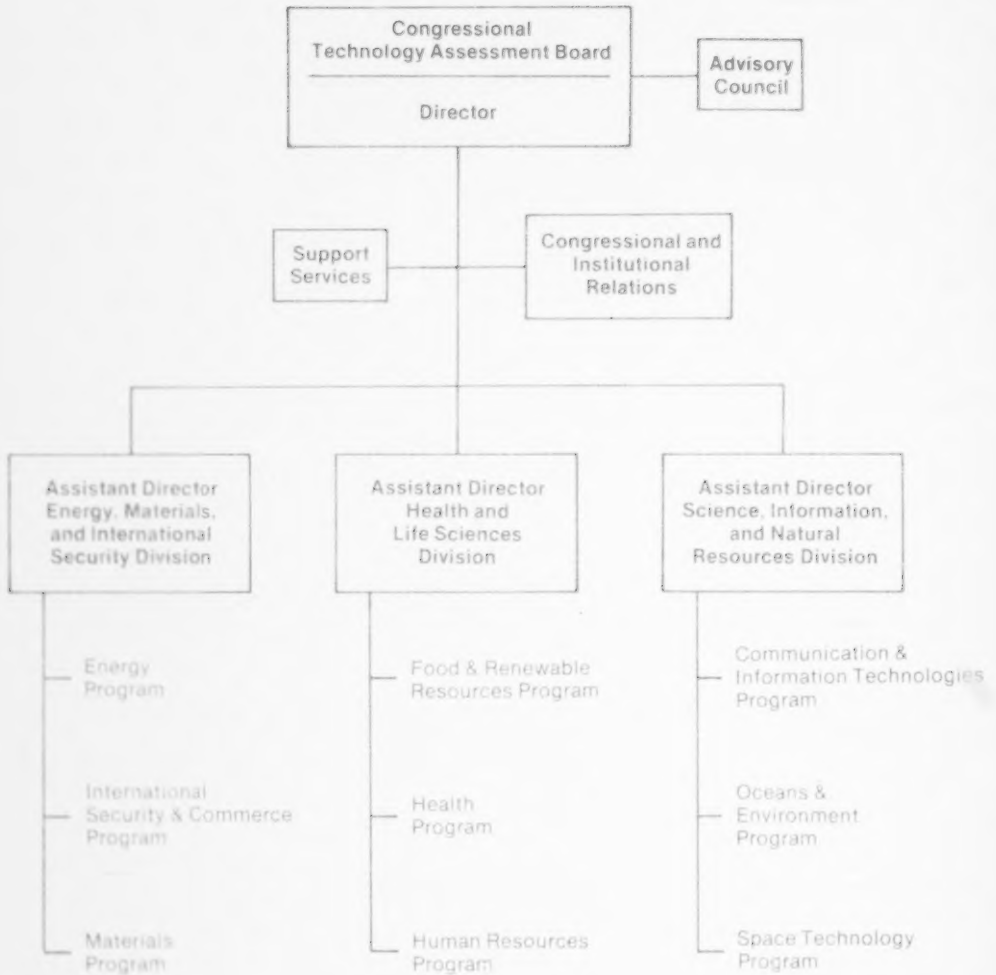
(a) As technology continues to change and expand rapidly, its applications are—

(1) large and growing in scale; and

(2) increasingly extensive, pervasive, and critical in their impact, beneficial and adverse, on the natural and social environment.

(b) Therefore, it is essential that, to the fullest extent possible, the consequences of technological applications be anticipated, understood, and considered in determination of public policy on existing and emerging national problems."

OTA Organization Chart



WHAT OTA IS

The Organization

The Congressional Board

A 12-member bipartisan congressional board—six Senators and six Representatives—governs OTA. Board Members are appointed by the President pro tempore of the Senate and the Speaker of the House, respectively. A Chairman and Vice Chairman are elected by the Board. These posts alternate between the Senate and House in succeeding Congresses. The Vice Chairman is traditionally a member of the party opposite that of the Chairman. (Current Board Members are listed on the inside front cover.)

The Council

An Advisory Council of 10 public members eminent in science, technology, and education, appointed by the Board, advises the Board on OTA assessments and other matters. The Comptroller General of the United States and the Director of the Congressional Research Service of the Library of Congress are also members.

The Director

The Director is appointed by the Board and serves as a nonvoting member. He or she has full authority and responsibility for organizing and managing OTA's resources according to Board policies.

The Staff

OTA has a relatively small, in-house staff of 80 to 90 professionals whose skills span the spectrum of physical, life, and social sciences; engineering; law; and medicine.

The Task

OTA's job is to provide Congress with objective analyses of the emerging, difficult, and often highly technical issues of the late 20th century. It explores complex issues involving science and technology, clarifying for Congress both the range of policy options and the potential impacts of adopting each option. OTA does not advocate particular policies or actions, but points out their pros and cons and sorts out the facts.

Technology Issues

A growing number of major issues of congressional concern—energy, environment, natural resources, national security, health, agriculture, telecommunications, transportation, world trade—are complex, highly technical, involve long-range impacts, and contain social and economic factors.

Take, for example, the issue of long-term energy sources. After three decades of retreating from coal, growing dependence on gas and oil, and continued major public investment in nuclear power, our Nation still has no definitive plan of action to provide a transition over the next several decades to an energy use and supply system that is economically sensible, environmentally acceptable, and sustainable over a long period of time. The security and economic future of our Nation probably depend more heavily on energy than on any single resource. In making decisions on national energy policy, Congress must examine and assess an intricate array of technical realities and uncertainties, scientific knowledge, economic trade-offs, social values and perceptions of risk and equity, and political judgments and trade-offs.

During the 1960's, Congress found that failure to consider the complexity, cost, breadth, and long-term implications of technology led to policy decisions that were sometimes inappropriate, ineffective, or worse. In deciding such issues, Congress was all too often forced to rely on inadequate, conflicting, and biased information from outside sources. In 1972, after a long series of studies and hearings, Congress authorized the establishment of OTA as a congressional source of information and analysis that is nonpartisan, expert, objective, and anticipatory.

WHAT OTA DOES

Assessment Requests and Approvals

According to the OTA Act, requests for OTA assessments may be made by the Chairman of any congressional committee acting alone, or at the request of a ranking minority member or a majority of committee members; the OTA Board; or the OTA Director, in consultation with the Board.

The Board decides whether or not OTA will undertake a requested assessment. First, the OTA staff screens the proposed study to determine what resources and time it might require and what modifications it might need to suit OTA's resources and congressional needs. The staff then presents a formal study proposal to the Board, which makes the final decision.

OTA Studies and Proposals

The bulk of OTA's work centers on comprehensive, indepth assessments that may take a year or more to complete. OTA also draws upon its past and current studies to provide a variety of shorter responses to meet immediate congressional needs.

These rapid responses to committees are based on data in past and current assessments. If asked, for example, to evaluate various approaches for financing energy conservation, OTA can draw on earlier studies of energy conservation strategies. Or, OTA may provide brief, topical "spinoffs" from assessments in progress—such as an analysis of the prospects for gasohol prepared for immediate use during the course of a larger assessment of the potential for producing energy from biological processes. OTA also can structure longer range assessments so that the results, in various stages, can be sent to Congress in the form of interim reports.

In addition, OTA provides advice to committee members and staff, presents testimony at hearings, and conducts workshops with committees.

HOW OTA WORKS

Program Teams

The OTA staff consists of skilled professionals with advanced training primarily in the physical, biological and social sciences, and engineering. The OTA staff is organized into various programs along issue and subject lines. These teams conduct specific assessments, working closely with congressional committee staff. The team develops the overall study plan, performs research, identifies, enlists, and works with the appropriate contractors and consultants, analyzes and integrates their work, and develops the final report. In some cases, teams of professionals from two or more program areas are created when the subject spans more than one program area.

Panels

Throughout each project, OTA uses advisory panels of experts on the particular subject as a way of ensuring that reports are objective, fair, and authoritative. Such panels include not only distinguished scientists and engineers, but also affected and interested parties from labor, industry, the academic community, public interest groups, State and local government, and citizens at large. These panels help define and shape OTA studies as they start and critique them before they are released.

Private Sector Involvement

The private sector is heavily involved in OTA studies as a source of expertise and perspectives while an assessment is in progress. Contractors and consultants are drawn from industry, universities, private research organizations, and public interest groups.

OTA works to ensure that the views of the public are fairly reflected in its assessments. OTA involves the public in many ways—through advisory panels, workshops, surveys, and formal and informal public meetings. These interactions provide citizens with access to information and help OTA identify contracts between the perspectives of technically trained and lay citizens.

Release of Reports

After a completed assessment has been approved by the Director, copies are sent to the Technology Assessment Board. If a majority of the

Board does not object, the report is forwarded to the requesting committee(s), summaries are sent to all Members of Congress, and released to the public. OTA assessments are published by the Government Printing Office and are frequently reprinted by commercial publishers.

Research Coordination

OTA works with the other congressional support agencies—the Congressional Budget Office, the Congressional Research Service of the Library of Congress, and the General Accounting Office—in an inter-agency Research Notification System. Its purpose is to coordinate activities and exchange information in order to avoid duplication of effort. Representatives of each organization meet regularly, and biweekly status reports are published in a central directory of congressional research activity.

Similarly, OTA stays in touch not only with the published work of analysts and researchers in Federal agencies and throughout the country, but also with their current activities. Thus, OTA can frequently obtain valuable unpublished information.

Studies in Progress (as of January 1981)

Alternative Energy Futures
 Solar Power Satellite Systems
 Synthetic Fuels for Transportation
 Decentralized Electric Energy Generating Systems
 An Analysis of Nuclear Powerplant Standardization Problems
 Impact of Technology on Competitiveness of U.S. Electronics Industry
 U.S. Industrial Competitiveness: A Comparison of Steel, Electronics, and Automobiles
 Technology and Soviet Energy Availability
 MX Missile Basing
 An Assessment of Development and Production Potential of Federal Coal Leases
 An Assessment of Nonnuclear Industrial Hazardous Waste
 U.S. Food and Agricultural Research
 Impact of Technology on Productivity of the Land
 Technologies for Determining Cancer Risks From the Environment
 Evaluation of Veterans Administration Agent Orange Protocol
 Technologies for the Handicapped

Strategies for Medical Technology Assessment
 Impacts of Applied Genetics Technology and World Population
 An Assessment of Technology for Local Development
 National Laboratories—Oversight, Legislative, and Authorization Issues
 Technological Innovation and Health, Safety, and Environmental Regulations
 Assessment of the Societal Impact of National Information Systems
 Societal Impact of Telecommunications Technology
 Impacts of the 1979 World Administrative Radio Conference
 An Assessment of High-Level Radioactive Waste Management and Disposal
 Impacts of Atmospheric Alterations
 Freshwater Resources Management, Planning, and Policy: An Assessment of Models and Predictive Methods
 Ocean Research Technology
 Space Policy and Applications
 Impact of Advanced Air Transport Technology
 Airport and Air Traffic Control System

(NOTE: For brief descriptions of these studies in progress—see OTA booklet on "Current Assessment Activities"—available from OTA's Publishing Office, 224-8996.)

Some Completed OTA Assessments and Technical Memorandums

ENERGY, MATERIALS, AND INTERNATIONAL SECURITY DIVISION

Energy From Biological Processes—Evaluates the energy potential of plant and animal matter.

Conservation and Solar Energy Programs of the Department of Energy—Analyzes the progress and direction of five major conservation and solar energy programs of the U.S. Department of Energy.

Residential Energy Conservation—Examines the prospects of existing and new technologies for reducing energy consumption in homes.

The Direct Use of Coal: Prospects and Problems of Production and Combustion—Assesses the prospects as well as the environmental, health, safety, and other problems of mining and burning significantly more coal than at present.

Application of Solar Technology to Today's Energy Needs—Evaluates the economic, technical, and environmental impacts of solar energy systems located at the point of use.

A Technology Assessment of Coal Slurry Pipelines—Compares the cost of transporting coal by slurry pipelines to rail for certain routes.

Enhanced Oil Recovery Potential in the United States—Assesses the potential for increasing domestic production of oil by applying developing technologies to known reservoirs.

Gas Potential From Devonian Shales of the Appalachian Basin—Analyzes the potential for producing gas from Devonian shales of the Appalachian Basin.

Technology and East-West Trade—Examines the economic, military, and political implications of technology transfer to the Communist world.

The Effects of Nuclear War—Examines the social, economic, political, and health effects of various levels of nuclear attacks on the United States and the Soviet Union.

Taggants in Explosives—Assesses the technical feasibility, safety ramifications, costs, and law enforcement utility of a proposal to require that commercial explosives be manufactured with "identification and detection taggants."

Technology and Steel Industry Competitiveness—Assesses how and when new technology can improve the international competitiveness of the U.S. steel industry.

An Assessment of Oil Shale Technologies—Assesses the status and potential of technologies for the development of oil shale resources.

Technical Options for Conservation of Metals: Case Studies of Selected Metals and Products—Explores the kinds and amounts of waste that occur in our use of eight critical metals.

Materials and Energy From Municipal Waste: Resource Recovery and Recycling From Municipal Solid Waste and Beverage Container Deposit Legislation—Examines present and potential technologies for producing energy and recovering resources from municipal solid waste.

Management of Fuel and Nonfuel Minerals in Federal Land—Analyzes Federal laws and practices that govern the exploration, development, and production of fuel and nonfuel minerals in onshore Federal Lands.

Analysis of Laws Governing Access Across Federal Lands: Options for Access in Alaska—Analyzes laws, regulations, and policies affecting access across federally owned lands to minerals on non-Federal lands.

World Petroleum Availability: A Technical Memorandum—Examines prospects for world oil supplies and production during the next two decades.

Gasohol: A Technical Memorandum—Discusses the technology and economics of gasohol production.

Benefits of Increased Use of Continuous Casting by the U.S. Steel Industry: A Technical Memorandum—Describes the continuous casting process and the rate of its adoption by U.S. and foreign steel industries.

HEALTH AND LIFE SCIENCES DIVISION

Environmental Contaminants in Food—Discusses the different types and sources of chemical and radioactive contaminants in food.

Pest Management Strategies in Crop Protection—Reviews the array of tactics currently used to control agricultural pests.

Open Shelf-Life Dating of Food—Addresses the practicality, benefits, and costs of open shelf-life dating of food products.

Drugs in Livestock Feed—Analyzes the use of antibacterial and other drugs to promote growth and prevent disease in livestock.

Emerging Food Marketing Technologies: A Preliminary Analysis—Examines new and emerging technologies for marketing food.

Nutrition Research Alternatives—Evaluates alternative strategies to redirect Federal research toward examining the relationship between nutrition and the changing health problems of Americans.

Organizing and Financing Basic Research To Increase Food Production—Evaluates alternative methods for organizing and funding basic research in the biological sciences.

Perspectives on Federal Retail Food Grading—Assesses the capability of the current food grading system used by the Federal Government.

The Implications of Cost-Effectiveness Analysis of Medical Technology—Analyzes the feasibility, implications, and usefulness of cost-effectiveness analysis and cost-benefit analysis in health care decisionmaking.

Forecasts of Physician Supply and Requirements—Analyzes the assumptions, methods, and conclusions of the technologies for forecasting both the need for and supply of physicians by specialty and geographical distribution.

A Review of Selected Federal Vaccine and Immunization Policies Based on Case Studies of Pneumococcal Vaccine—Analyzes Federal policies related to four areas of vaccine and immunization activities.

Selected Topics in Federal Health Statistics—Examines data systems used in Federal health programs and offers alternatives for their effective management.

Assessing the Efficacy and Safety of Medical Technologies—Evaluates the need for assessments of the efficacy and safety of medical technologies before they go into widespread use.

Policy Implications of the Computed Tomography (CT) Scanner—Analyzes issues such as efficacy, health planning, use, and financing arising from the widespread adoption of the CT scanner.

Policy Implications of Medical Information Systems—Examines the potential of computer-based medical information systems.

Cancer Testing Technology and Saccharin—Assesses the capacity of current testing methodology to predict the carcinogenic potential of chemicals consumed by humans.

Development of Medical Technology: Opportunity for Assessment—Examines the need for assessing the potential social impacts of emerging medical technologies while they are being developed.

Compensation for Vaccine-Related Injuries: A Technical Memorandum—Reviews the pros and cons of establishing a Federal vaccine injury compensation program.

SCIENCE, INFORMATION, AND NATURAL RESOURCES DIVISION

A Preliminary Assessment of the National Crime Information Center and the Computerized Criminal History System—Identifies issues emanating from use of the FBI's National Crime Information Center and Computerized Criminal History system.

A Preliminary Analysis of the IRS Tax Administration System—Raises questions about the civil liberties, privacy, and due process of millions of Americans that could arise from a new computer system.

The Feasibility and Value of Broadband Communications in Rural Areas: A Preliminary Evaluation—Examines the issues involved in using communication technologies—such as cable television, ground or satellite based microwave links, and automatic broadcast repeater stations—to provide community services in rural areas.

Transportation of Liquefied Natural Gas—Evaluates the status and trends of ongoing and proposed projects involving the transportation and handling of liquefied natural gas.

Establishing a 200-Mile Fisheries Zone—Evaluates the problems and opportunities presented by the new 200-mile U.S. fishery zone.

Coastal Effects of Offshore Energy Systems—Assesses social, economic, and environmental impacts of three proposed offshore energy systems.

Oil Transportation by Tankers: An Analysis of Marine Pollution and Safety Measures—Examines safety problems of oil tankers on the ecology and quality of the oceans and coastal areas.

Impact of Advanced Air Transport Technology, Part 1: Advanced High-Speed Aircraft—Assesses the economics, feasibility, and uncertainties of developing advanced subsonic and/or supersonic passenger aircraft.

Impact of Advanced Group Rapid Transit Technology—Examines second-generation automated guideway transit systems as part of a solution to the need for improved urban mass transit.

Changes in the Future Use and Characteristics of the Automobile Transportation System—Describes energy, environmental, safety, and cost impacts of technological changes.

An Evaluation of Railroad Safety—Evaluates trends in railroad-related accidents.

Automatic Train Control in Rail Rapid Transit—Evaluates the safety, maintenance, and cost of different levels of automation of mass transit trains.

An Assessment of Community Planning for Mass Transit—Assesses the ways cities plan for mass transit.

Ocean Margin Drilling: A Technical Memorandum—Evaluates the newly proposed public-private cooperative research effort in marine geology.

Recent Developments in Ocean Thermal Energy: A Technical Memorandum—Reviews status of ocean thermal energy conversion (OTEC) developments occurring after OTA's 1978 report on OTEC.

A REVIEW
OF SELECTED
FEDERAL
VACCINE AND
IMUNIZATION
POLICIES

Environmental Contaminants in Food

Pest Management Strategies in Crop Protection

SELECTED
TOPICS
IN FEDERAL
HEALTH
STATISTICS

Volume I

COMPUTER TECHNOLOGY IN MEDICAL EDUCATION AND ASSESSMENT

OPEN SHELF-LIFE DATING OF FOOD

Drugs in Livestock Feed

Technical Options for Conservation of Metals

Case Studies of Selected
and

Management of Fuel and Nonfuel Minerals in Federal Land

Materials and Energy from municipal waste

The Direct Use of Coal

Analysis of Laws Governing Access Across Federal Land

Options for Access in Alaska

Technology Assessment of Changes in the Future Use and Characteristics of the

AUTOMOBILE TRANSPORTATION SYSTEM

Summary and Finding

RAILROAD SAFETY U.S.-CANADIAN COMPARIS

Resource Recovery and Recycling
From Municipal Solid Waste
Storage Container Deposit Legislation

The Effects of Nuclear War

Technology and East-West Trade

Technology Assessment of Changes in the Future Use and Characteristics of the

AUTOMOBILE TRANSPORTATION SYSTEM

Volume III: Public Participation

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Notes

General Information

Contacts Within OTA

(OTA offices are located at 600 Pennsylvania Avenue, S.E., Washington, D.C.)

Office of the Director	224-3695
Congressional and Institutional Relations	224-9241
Energy, Materials, and International Security Division	226-2253
Health and Life Sciences Division	226-2260
Science, Information, and Natural Resources Division	226-2253
Administration Office	224-8712
Personnel Office	224-8713
Publications	224-8996

Reports and Information

To obtain information on availability of published reports, studies, and summaries, call the OTA Publishing Office, 224-8996.

For information on the operation of OTA, the nature and status of ongoing assessments, or the general publications listed below, write or call:

Public Communications Office
Office of Technology Assessment
U.S. Congress
Washington, D.C. 20510
(202) 226-2115

General OTA Publications

OTA Annual Report.—Details OTA's activities and summarizes reports published during the preceeding year.

Catalog of Publications.—Catalogs by subject area all of OTA's published reports with instructions on how to order them.

Publication Briefs.—One-page summaries of OTA reports.

Press Releases.—Announce publication of reports, staff appointments, and other newsworthy activities.

OTA Brochure.—"What OTA Is, What OTA Does, How OTA Works."

Ongoing Assessments Booklet.—Contains brief descriptions of assessments presently underway with estimated dates of completion.

Summaries of OTA Reports.—The summaries of most OTA reports published since late 1979 are available, at no cost, as separate, self-mailing booklets.

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